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# INTRODUCTION



# PROJECT SCOPE

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In January 2003, a student design team from the Conway School of Landscape Design was contracted by the Town of Bethel to do a land-use feasibility study for the Terre Haute property and the contiguous watershed lands.

The project scope includes the following activities and undertakings:

- Gather and identify available maps of the study area;
- Research and compile information about landforms, soils, natural features, watercourses, wetlands, vegetation, and wildlife of the lands within the study area;
- Prepare a base map for the Terre Haute property and contiguous lands;
- Identify zoning and permitted uses in Bethel and Danbury for lands within the study area;
- Research ownership and history of Terre Haute and contiguous properties;
- Research the involvement of the Economic Development Commission in the development of the adjoining industrial park, including intentions for future expansion into lands within the study;
- Assess current active and passive public recreation facilities and lands within the town and identify opportunities for best use/expansion into lands within the study area; and
- Develop design schemes and recommendations in development, recreation, and preservation based on available information and public input.

# BACKGROUND

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The Terre Haute property and reservoir lands have a human and land-use history that was and continues to be varied and diverse. From Native American uses to more contemporary activities such as industrial development, Terre Haute has undergone numerous changes. Within the past few years, Terre Haute has become a focal point for the Bethel community, and various goals for the land have been expressed.

The Town of Bethel purchased Terre Haute in 1980 with the intention to develop industry, preserve open space, and provide recreational opportunities for the citizens of Bethel. While the town's initial intention of developing a segment of the land for industry was achieved, little headway was made in the realm of pursuing plans for conservation and recreation. Today, more than twenty years after the purchase of the property, the town retains its vision for Terre Haute as it develops strategies for management of the property. Ideas about the property include expanding industry to promote the town's economy, preserving open lands, and increasing the opportunity for recreation.

Terre Haute and the adjoining reservoir lands are unique parcels of land that as of now have remained undeveloped. By creating and adopting a land-use plan for Terre Haute and the reservoir lands, the Town of Bethel can gain a better understanding for the properties' resources and make better informed decisions that will ensure long-term viability for Terre Haute and its water resources.

## CONTEXT AND SITE DESCRIPTION

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The Town of Bethel is a small New England town situated in the southwestern corner of Connecticut in Fairfield County. Bethel is connected to Interstate 84, and the town is easily accessible to New York City by railway. The town, like many in Fairfield County, is facing increasing population pressures, resulting in diminishing open space. With a population of 18,067, Bethel covers 17 square miles and is located to the east of the City of Danbury, a city of approximately 63,000 people.

Terre Haute is a 463-acre tract of land owned by the Town of Bethel and is located partially in Bethel and partially in the City of Danbury (see Figure 1). Redding borders the property to the south. The property itself, as shown in Figure 2, is surrounded by various uses. Residential neighborhoods in both Bethel and Danbury abut the property to the north, west, and southwest, while the reservoir lands connect to Terre Haute in the northwest corner. Swampfield Land Trust land borders the property in the southwest. The east side of Terre Haute is bordered by the railroad and the Francis J. Clarke Industrial Park, which, from the Bethel side, provides the sole means of access to Terre Haute.

Terre Haute, French for “high ground”, is a steeply sloping site capped by a forested ridgeline. Of the 463 forested acres, 255 acres are in Bethel and the remaining 208 acres are located in Danbury. The 220-acre Francis J. Clarke Industrial Park, which was built during the 1980s, adjoins Terre Haute. Currently, there are 35 industrial lots, primarily occupied by distribution and light manufacturing companies.



*The Terre Haute ridge rises above the Francis J. Clarke Industrial Park.*

The adjoining reservoir lands of 168 acres, located in Danbury, are also owned by Bethel and consist of Mountain Pond and Eureka Reservoir. These two water bodies are important sources of water for the town of Bethel, although they do not supply the entire town. Long Ridge Road bisects the reservoir lands, connecting Bethel and Danbury, and Danbury’s Tarrywile Park borders the reservoir lands to the northwest. Wetlands, vernal pools, and permanent and intermittent streams also occur on the property.

While Terre Haute does not have any formal access points or trailheads, some passive recreation does take place on the property. Hiking trails traverse

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the land, and the archery club uses an area in the southern portion of Terre Haute for archery practice. The town currently requests large groups to file permit requests to use the property for recreation.



## Context Map (figure 1)

Context Map (figure 1)  
(back)

Aerial map  
(figure 2)

Aerial map  
(figure 2)  
(back)

# ENVIRONMENTAL ANALYSIS



## PURPOSE OF ANALYSIS

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The purpose of site analysis is to gather and interpret information about the physical characteristics and context of the site. The landforms, soils, slopes, wetlands and waterways, wildlife, and vegetation play a significant role in shaping the context of the site. By looking at the patterns that emerge from the inventory, opportunities, and constraints can be identified to determine areas suitable for particular uses. This information creates the basis upon which criteria can be developed for suitable activities and uses for Terre Haute.

The information from the various maps culminates in an Environmental Sensitivity Index. In particular, the maps used for this index include: Soils, Slopes, Wetlands and Waterways Sensitivity, and Rare Species and Unique Habitats.

Information from analyses comes from a variety of sources, including but not exclusive to USGS topographic maps, GIS information from CT DEP and HVCEO, CT DEP Natural Diversity Database, Town of Bethel Plan of Development, and the Soil Conservation Service Fairfield County Soil Survey.

# GEOLOGY AND SOILS

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**Summary: Because Terre Haute has a rugged terrain with the majority of soils being shallow to bedrock, erosion is a major concern.**

Terre Haute has extremely rugged and rocky terrain, and bedrock is found at or near the surface in numerous areas. The soils which are found on Terre Haute and the reservoir lands of Eureka Reservoir and Mountain Pond result from a history of glaciation. Glacial till deposits, which are a mixture of poorly sorted, non-stratified sand, silt, clay, gravel, and boulders, are widespread on Terre Haute.

The dominant bedrock is a granitic gneiss, which is a combination of gneiss and schist originating from the Highland Massifs, running north to south. In addition to this formation, the Dalton formation, a formation characterized by quartzite, gneiss, and schist, is mapped to its west. Terre Haute also borders a narrow north-south band of limestone bedrock along the eastern edge that potentially creates a unique calcareous ecological habitat. Calcareous outcrops also occur in the interior of Terre Haute

Terre Haute and the reservoir lands of Eureka Reservoir and Mountain Pond contain a diversity of soils. The two dominant soils on the site are Hollis-Charlton-Rock and Hollis-Rock-outcrop-Charlton complex (see Figure 3). These soils, according to the Soil-Conservation Service's Soils Survey of Fairfield County, are moderately steep (3-15% slopes) to extremely steep (15-45% slopes). Where bedrock is not exposed, soils are thin and depth to bedrock is shallow. The soils are well to excessively drained consisting of fine sandy to rocky loam. Runoff is rapid to extremely rapid making these soils prone to erosion when not stabilized by vegetation.

The three hydric soils that are present on the site are Carlisle muck, Leicester fine sandy loam, and a Ridgebury-Leicester-Whitman stony fine loam series. These poorly drained soils have high water tables and are found on primarily level areas in drainageways and depressions.

The majority of the site is not suitable for construction. Steep slopes, soils with shallow depth to bedrock and high erosion potential, exposed bedrock, and the presence of wetlands pose severe limitations for development. However, the soils do support a diverse array of vegetation that contributes to the stability of the site.



## Soils analysis Map (figure 3)

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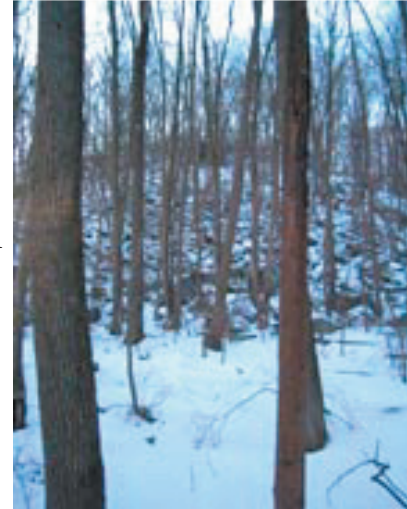
## SOILS MAP (FIGURE 3) (BACK)

# SLOPES

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**Summary: Terre Haute has a rugged and varied topography with few level areas. Steep slopes of greater than 25 percent along the eastern portion of the property create a natural barrier. The site has a rocky and hilly terrain which narrows the range of human activity. Reshaping it to accommodate activities that require flatter land would be prohibitively expensive.**

The Terre Haute property has an undulating topography with slopes mostly greater than 10 percent. The west portion of the property is highly varied with ravines, small valleys, rocky outcrops, and knolls, while the majority of the east side of the property has slopes greater than 25 percent with more than half of these slopes over 50 percent. The majority of the level areas found on the property are either on ridge tops or in areas with hydric soils where the water table is at or near the surface which is often indicative of wetlands. The steep slopes hinder access to the higher, less steep areas.



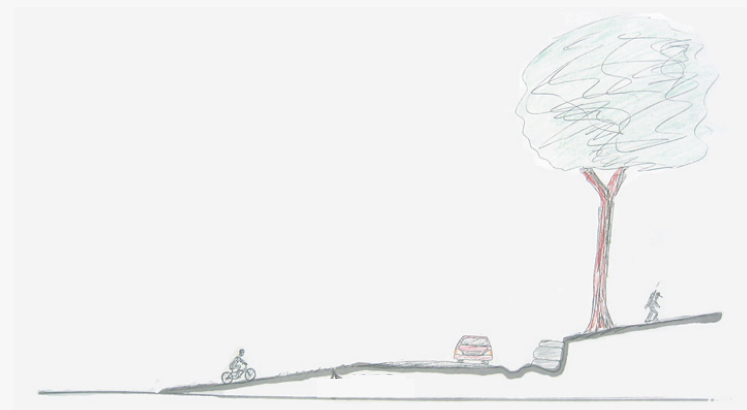
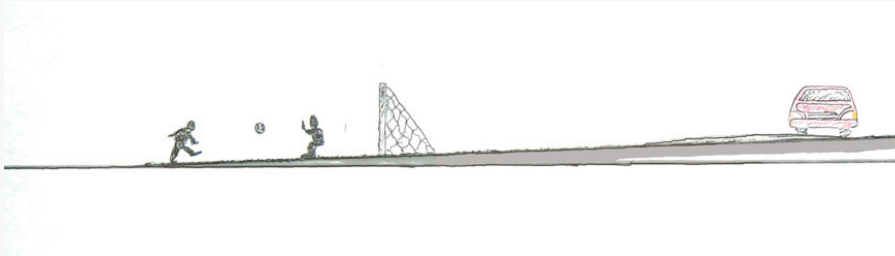
*Steep, rocky slopes comprise the majority of Terre Haute.*

In the following table, slopes are categorized according to steepness to coincide with some of the suggested uses for the site.

Percentage	Steepness	Potential Activities
0-3%	Nearly level	Ideal for playing fields and easy walking
3-8%	Slight slope	Preferred range for walkways, parking lots, and paved roads
8-15%	Noticeably steep	15% preferred maximum for roads, strenuous hiking
15-25%	Steep	Extensive cut and fill necessary for alteration of slopes; erosion a big concern
25-50%	Very Steep	Use of land limited for human activity; severe potential erosion
>50%	Cliffs	Highly constrained

*Table 1: Comparison of slope percentages*

Slopes on the property constrain uses because they are steep and depth to bedrock is shallow. For slopes greater than 25 percent and where bedrock is near or at the surface, costs of development usually outweigh the benefits. Human activity is further limited because of very steep areas along Terre Haute's eastern edge that create natural barriers to the property. According to the Bethel Plan of Development, areas such as these, over 25% slope, should fall under the recommended ridge protection overlay.



*Slopes shown above indicate 3%, 15% and 25% slopes.*

## Slopes analysis Map (figure 4)

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## Slopes analysis map (back)

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## TOPO MAP (figure 5)

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TOPO MAP (figure 5)  
(back)



# WETLANDS AND WATERWAYS

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## *Wetlands and Waterbodies*

**Summary: Wetlands exist on Terre Haute in several areas. These wetlands are regulated by the local Inland Wetland Commissions and identified by the presence of hydric soils. They are protected because of the important ecological and hydrological roles they play. Waterbodies include intermittent and perennial streams and ponds, as well as Mountain Pond and Eureka Reservoir which are part of the public drinking water supply.**

The Inland Wetland Commissions of Bethel and Danbury regulate each activity in Bethel and Danbury respectively. Each town or city has permitting jurisdiction under Connecticut state law over its wetlands, waterways, and the 100' upland review area and regulates activities in and around them. According to state regulations, regulated activities are defined as:

*Any operation within or use of a wetland or watercourse... [excepting specified activities (permitted and non-regulated uses)]. Furthermore, any clearing, grubbing, filling, grading, paving, excavating, constructing, depositing or removing of material and discharging of storm water on the land within 100 feet measured horizontally from the boundary of any wetland or watercourse is a regulated activity. The Commission may rule that any other activity located within such upland review area or in any other non-wetland or non-watercourse area is likely to impact or affect wetlands or watercourses is a regulated activity.” (Sec. 115-4 Wetland and Watercourses Regulations, Amendment 10/12/02)*

Restrictions on activities in and around these sensitive areas are meant to protect the hydrology, soils, and biological species that rely on the wetlands and adjacent upland habitats. Wetlands, which include the specifically adapted vegetation, play a critical role in maintaining water quality and stream flows. They provide buffers from pollutants and help filter and clean waters that flow into drinking water supplies. In addition, many plants and animals rely on wetland habitats for all or part of their life cycles. For example, vernal pools, although not specifically defined according to Connecticut wetland regulations, are present on Terre Haute and provide critical



*Signs mark Bethel-owned land where Long Ridge Road cuts through the watersupply lands.*

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breeding habitat for salamanders. These ephemeral pools, which appear in late winter and spring, are highly dependent on the runoff from winter snow melt and the amount of spring rain.

In Connecticut, wetlands are identified by the presence of hydric soils—soils that according to the Soils Survey of Fairfield County are classified as poorly drained, very poorly drained, alluvial, or floodplain. In Terre Haute, three hydric soil types are identified in the SCS Soil Survey of Fairfield County: Carlisle muck, Leicester fine sandy loam, and a Ridgebury-Leicester-Whitman extremely stony fine loam series. These soils are found in several locations on the property including in pockets at the base of the east-facing slope adjacent to an intermittent stream and perched at the top of the main ridge. Presence of hydric soils and wetlands must be field verified and delineated by an experienced professional.



*Bogus Brook Headwaters feed into the Saugatuck River Watershed.*

Wetlands found on the Terre Haute property (see Figure 6) have been identified by two means: the Town of Bethel wetlands map and the Fairfield County Soil Survey. In addition to these identified areas, it is highly probable that smaller wetlands occur at other locations on the site. Proposed activity of any wetland or activity in the 100-foot upland review area must come before the Inland Wetland Commission and be reviewed prior to any disturbance or work.

The Terre Haute property has numerous streams, both intermittent and perennial, and ponds including Murphy's Brook, Bogus Brook, the Ice Pond, Mountain Pond, and Eureka Reservoir. These streams and ponds are subject to regulations in a 100-foot upland review area surrounding the waterbody or adjacent to the waterway.

According to the Connecticut Department of Environmental Protection (CT DEP), groundwater found under Terre Haute is designated for potential public water supply without treatment and is important for wildlife habitat. The groundwater which is present, comes to the surface through cracks in the bedrock and feeds wetland, streams, and Mountain Pond.

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### *Reservoir Lands*

**Summary: Eureka Reservoir and Mountain Pond provide drinking water to the Town of Bethel and are sensitive areas due to surrounding steep slopes, thin soils, and bedrock outcrops. Terre Haute and the watershed lands are part of two larger watersheds: the Housatonic River watershed and the Saugatuck River watershed.**

In addition to the wetlands and waterways found on the Terre Haute property, Eureka Reservoir and Mountain Pond to the northwest of Terre Haute are important as public water supplies for areas of the Town of Bethel. These ponds are fed by groundwater and seasonal, intermittent streams. Steep slopes, shallow soils, and bedrock outcrops make these areas sensitive to disturbance. Connecticut State law classifies the lands surrounding the waterbodies as Class 1 which is a limited protection buffer zone of 250 feet, and Class 2 protection, which is remaining land owned by the water company within the watershed.

The Town of Bethel owns at least 40% of the Eureka Reservoir watershed lands including a portion found on the Terre Haute property. In addition, residential development occurs on watershed lands in Danbury to the south and west of the properties. These adjacent properties are located in unregulated zones of the watershed, and therefore, are not afforded Class 1 and Class 2 protection.



*Eureka Reservoir is a water supply source for parts of Bethel.*

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Terre Haute and the Eureka Reservoir/Mountain Pond lands are part of two larger watersheds: the Housatonic River watershed and the Saugatuck River watershed (see Figure 6). The water supply lands and the majority of Terre Haute fall within the Housatonic River watershed. Bogus Brook is a headwater tributary within the Saugatuck River watershed, which eventually feeds Saugatuck public water supply reservoir. The Saugatuck watershed has been identified as important for its open space and ecological values. To ensure continued clean drinking water from the pristine supply and retain critical wildlife habitat, these watershed lands need to remain intact and minimally disturbed. Terre Haute has the potential to contribute to the approximately 15,000 acres of watershed land that is already protected.

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## Wetlands map (figure 6)

BACK OF WETLANDS MAP  
FIGURE 6

Wetlands sensitivity  
index (figure 7)

Wetlands  
sensitivity index  
(figure 7) (back)



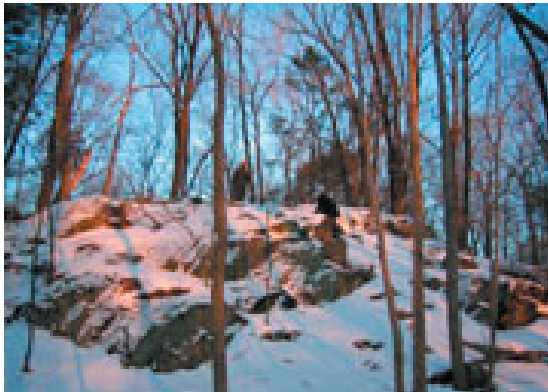
# VEGETATION

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**Summary: Terre Haute is a forested ridgeline composed of mixed hardwood and northern hardwood species. The varied landforms and geology of the area also create environments for diverse plant communities. The lack of invasive exotic plants indicates the strong health of the existing plant communities.**

Terre Haute is primarily a high ridge with forest, rocky outcrops, and perched wetlands. Within the Central Hardwood Zone, the forest is a combination of mixed hardwood and northern hardwood species as well as wetland species. What was once a predominantly oak-chestnut forest has now shifted to become an oak-hemlock forest due to chestnut blight invasion of the forest in the early 1900s. Numerous species of trees exist within this second-growth forest including but not limited to tulip tree, yellow birch, black birch, white oak, chestnut oak, red oak, red maple, shagbark hickory, and American beech.

The property has a diverse topography with ravines and bedrock outcrops. This varied topography creates microclimates, resulting in varied plant communities. The upper slopes tend to be drier with thin soils, and, therefore,



*Rocky outcrops create microhabitats and microclimates, contributing to the diversity of vegetation found on Terre Haute.*

forest growth is slow. Trees such as chestnut oak and the understory shrub, mountain laurel, occur within the upper slope range. Within the southeastern area of Terre Haute, hemlocks, with an understory of mountain laurels, dominate the north-facing slopes while hardwoods, such as the tulip tree, are found along south-facing slopes. Vegetation surrounding vernal pools and wetlands are specifically adapted to wetter soils and include species such as blueberry and sweet pepperbush.

Vegetation unique to and associated with limestone outcroppings is found at Terre Haute. For example, wall rue, columbine, bladdernut, fringed gentian, and maidenhair fern grow on the limestone-derived soils and outcrops found on Terre Haute.

The lack of non-native exotic vegetation is of importance to Terre Haute. Non-native plants are not well-established and the lack of exotic plant species is an excellent indicator of a strong, healthy landscape. Exotic invasive

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plant species become problematic because they can overwhelm the local ecosystems leading to decreased diversity. The few invasive exotic plants that were observed include the vine, oriental bittersweet, found on the boundary between the industrial park and Terre Haute, and Japanese barberry in the forest interior.

The status of exotic plant species on the property should be monitored and a plan of control developed. Education of surrounding landowners to encourage use of native plants on their properties would help to limit the spread of exotic plant species into Terre Haute.

# WILDLIFE AND HABITAT

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**Summary: Numerous habitat types within Terre Haute and the adjacent reservoir lands support several species of mammals, birds, amphibians, insects, and reptiles. The contiguous unfragmented undeveloped greenbelt that joins the lands through Danbury Land Trust Lands, supports a greater diversity of species as well as species requiring larger habitats.**

The 463-acre Terre Haute property and the 168-acre contiguous reservoir lands provide important and diverse ecological habitats especially when combined with the surrounding undeveloped properties. Terre Haute and the reservoir lands are adjacent to a larger greenbelt. When Tarrywile Park to the north, Swampfield Land Trust lands to the southwest, Bethel Land Trust lands to the southeast and northeast, and Saugatuck Forest lands to the south are added, the resultant expanse of undeveloped and unfragmented land is significant habitat for numerous species. This larger context combines to create an environment that can support a greater diversity of flora and fauna. Among the several ecosystems and habitat types found on the land and water are upland forests, shrub and forested wetlands, marshes, ponds, streams, vernal pools, calcareous (limestone) outcroppings, dry ridges, cool north-facing slopes, and ravines.

Because of the diversity of habitats found in Terre Haute and the reservoir lands, the properties host a wide diversity of plant and animal species. Among the species of birds found in Terre Haute are thrush, vireo, wood warblers, flycatchers, forest-nesting hawks, owls, ruffed grouse and wild turkey as well as other species. Several populations of forest-nesting birds also found in Terre Haute require large tracts of unfragmented forest lands to ensure access to food sources and nesting sites.

Wetland habitats found on Terre Haute include ponds, forested wetlands, shrub wetlands, and vernal pools. Vernal pools, which are ephemeral pools of water that appear in late winter and spring when the water table is at its highest, support fauna specifically adapted to breed in these seasonal ponds. Vernal pools are highly dependent upon the hydrologic cycle of their environments. Many species of salamanders, frogs, and insects found in second-growth forests require vernal pools for breeding and reproduction. Vernal pools are not currently described or protected under Connecticut wetland regulations. The state-listed Jefferson salamander, classified as a species of special concern, is recorded with the Connecticut DEP in the Natural Diversity Database, which lists endangered species and species of special concern.

The reservoir lands and Terre Haute's streams, ponds, and lakes are clean,

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therefore contributing to a healthy ecosystem. They provide a source of water and habitat for the diversity of fauna, ranging from aquatic insects to beavers and mink.

Other mammals found on Terre Haute and the reservoir lands within the hardwood forest habitat include weasels, coyotes, red and gray foxes, fishers, mink, squirrels, rabbits, bats, and mice. “Subsidized species”, species that are more prevalent because of human activity, include raccoons, skunks, and white-tailed deer.

The marble-limestone outcroppings of Terre Haute support yet another important habitat. The north-south band of limestone that runs through the eastern portion of Terre Haute supports habitat rare in Connecticut allowing several species of plants and insects specifically adapted to this geology to thrive on Terre Haute. The Natural Diversity Database lists species as endangered or of special concern in areas covered by this marble-limestone band.

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# Wildlife map (figure 8)

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# Wildlife map (figure 8)

## VIEWS

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**Summary: Views from Terre Haute and the reservoir lands benefit from the height of the high ridge. Views are most prominent during winter time, although a few clearings on rocky outcrops provide all season views. Within the property, views to small ravines, large rocky outcrops, glacially deposited boulders, and valleys carved by streams as well as Eureka Reservoir and Mountain Pond create a sense of remoteness in a densely populated area.**

Terre Haute contains a prominent ridge that is seen from several locations in Bethel and Danbury. Bogus Mountain, located along this north to south running ridgeline, is the highest point on the property and is at an elevation of 850 feet above sea level. The view of the east side to the property consists of the forested ridge, contributing to the rural character of Bethel. According to the Bethel Plan of Development, Terre Haute falls under a recommended ridge protection overlay, potentially protecting the site from development. Although visible and prominent housing developments occur along other ridges in Bethel, Terre Haute has thus far remained unaltered. These views to the prominent ridge of Terre Haute add to the sense of being in a low-density, less developed landscape.

During summer months when vegetation creates a dense canopy, views from the property are limited. Rocky outcrops afford a few view points from within the property. Winter views have greater visibility through the deciduous tree canopy. Westerly views across Danbury look out to an undeveloped ridge line running parallel to Terre Haute, while views to the east look towards a ridge with residential development.

Within the property itself, there are numerous noteworthy views. The rugged landscape creates internal views to small ravines, large rocky outcrops, glacially deposited boulders, and valleys carved by streams. In addition, Mountain Pond and Eureka Reservoir, with the surrounding rough terrain, give a sense of remoteness to the landscape.



*Westerly views from Terre Haute look over Danbury ridgelines.*

## ACCESS AND CIRCULATION

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**Summary: Vehicular and pedestrian access to Terre Haute is limited due to natural barriers, privately owned abutting lands, and lack of roads on the property. Long Ridge Road provides the only vehicular access to the reservoir lands, although this poses a concern due to its proximity to the drinking water supply.**

Currently, there is no vehicular access to the Terre Haute property. Access to the periphery of Terre Haute is also limited. The east side of the property runs parallel to Grassy Plain Road (Route 53) and Turkey Plain Road but is separated by the Conrail Railroad and the Francis J. Clarke Industrial Park. No formal parking areas are designated for Terre Haute. Access through the industrial park is limited to street-side parking since the parking lots are privately owned. Residential neighborhoods abut the property to the north in Bethel, and to the southwest and west in Danbury.

The reservoir lands of Eureka Reservoir and Mountain Pond are bisected by Long Ridge Road which runs from the northeast to the southwest. While this road does connect Bethel and Danbury it is not a main thoroughfare. The narrow windy road has no formal parking areas, although a handful of informal pull-offs are used for vehicular parking. The proximity of Long Ridge Road to the reservoir lands is a potential source of polluted water runoff.

Pedestrian access to Terre Haute is only possible through the industrial park, privately owned residential areas, and land trust property. In addition, several natural barriers to access exist including steep slopes and wetlands. Along the eastern edge of Terre Haute, slopes in excess of 50% make pedestrian access difficult. An informal network of trails, however, does exist and is used for passive recreation including hiking, cross country skiing, and mountain biking. The town requires a permit for large groups using the property and for hunting. Pedestrian access to Eureka Reservoir and Mountain Pond is via Long Ridge Road or through Terre Haute.



Access map  
(figure 9)

ACCESS MAP  
(FIGURE 9)(BACK)

## ANALYSIS SUMMARY (ENVIRONMENTAL SENSITIVITY INDEX)

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**Summary: The majority of the property is highly constrained and unsuitable for development. Areas with moderate and lower environmental sensitivity are small, ranging from 1 to 5 acres and are separated by streams, wetlands, and steep slopes.**

To gain a better understanding for the site's sensitivity to disturbance from activities such as road building, construction, or simply hiking and bicycle trails, the soils, slopes, wetlands and waterways, and rare species analyses were overlaid to create a composite map. The level of darkness on this map indicates the degree of sensitivity of an area to disturbance, with the darkest areas being most sensitive or highly constrained. These areas are found in bands across the property with a large solid band along the east side. Most of the sensitivity can be related to three primary factors: slopes, soils, and water (wetlands, streams, ponds and upland "buffer" zones around wetlands and waterways).

Terre Haute has steep slopes, with considerable areas over 50%, shallow soils, bedrock outcrops, wet meadows, forested and shrub wetlands, vernal pools, streams, and ponds. These landscape features constrain potential uses significantly; activity around wetlands and waterways is regulated by the state to decrease potential harm to waterways and groundwater resources, and activities on steep slopes are constrained by the difficulty and expense of building on steep slopes. The summary analysis reveals that areas without these constraints are small, ranging generally from 1 to 5 acres, and are separated from other less constrained areas by streams, wetlands, and steep slopes. Flat areas are primarily found in wetland depressions and on the top of the ridge and peaks.

Several areas to the south of the industrial park are at the same elevation and have moderate to limited degrees of environmental sensitivity. These areas are easily accessible from the end of Trowbridge Drive within the industrial park. Approximately 12 acres are between steep talus slopes to the west and a sharp drop to the train tracks and Sympaug Pond to the east, while 6 more acres are classified as moderate to least sensitive further south of a small wetland and stream. Another larger wetland and perennial stream constrain the use of the area just past these 18 acres. An area at the north end of the industrial park that has moderate environmental constraints and good access is a parcel owned by the Town of Bethel.

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### *Mt. Pond and Eureka Reservoir*

While some locations around Mt. Pond and Eureka Reservoir have fewer constraints, these lands should have limited activity to protect the purity and safety of the drinking water supply. Building or road construction and vehicular use could endanger this important resource through sedimentation, release of hazardous materials from vehicles such as oils and fuel, and the potential spill or release of materials related to construction and vehicular traffic. However, while activities in the watershed should be restricted to avoid negative effects on the reservoirs, this does not preclude careful alterations to allow for limited public access and sensitive use of the land. By maintaining a well-vegetated buffer all along the water's edge and drainage ways and managing the area to avoid erosion and sedimentation, limited human activity such as hiking and fishing could take place.

### *Overview*

The steep slopes and exposed bedrock pose the largest constraints to building a facility in the interior of Terre Haute or a road from the industrial park into Terre Haute. Any facilities would have to be carved out of the steep, rocky ridge. In addition, there are no large flat areas to where a road could lead, and the undulating topography would make any large scale construction difficult. To build a road up a steep slope, extensive cut and fill would be necessary and result in excessive removal of existing trees. These activities would result in high economic costs for road building. In addition, a road built on a steep slope can be seen from a great distance and would create a large visual focus on the hillside.

The summary analysis indicates that because of numerous constraints, the majority of the property is not suitable for development. Land-use options identified are based on this summary analysis.

Environmental sensitivity  
index (figure 10)

Environmental  
sensitivity index  
(figure 10)  
(back)

# SOCIAL ANALYSIS





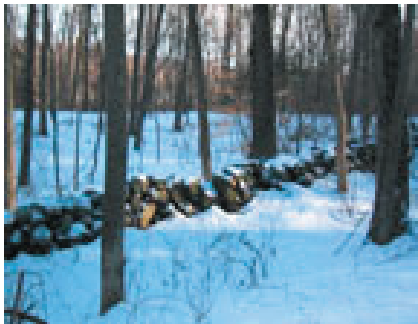
# HISTORICAL OVERVIEW AND CULTURAL RESOURCES

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**Summary: Terre Haute has a diverse land-use history including use by Native Americans, timber harvesting, gravel mining, farming, and light industry. The property changed hands several times before the Town of Bethel purchased the 631-acre Terre Haute property in 1980. Although originally planned for 200 acres, the Francis J. Clarke Industrial Park was developed on 220 acres. The remainder of the property has remained undeveloped.**

## *Historical Overview*

Terre Haute and the adjacent reservoir lands have a rich land-use history. While the majority of the property is now forested, this second-growth forest indicates past timber harvesting activities.



*A historic stone wall indicates past agricultural use of the land.*

Former land-use patterns for Terre Haute and the reservoir lands are documented from 1878 when the Town of Bethel purchased the watershed lands. Historical uses associated with the Terre Haute property in the 1900s include management of the forest for wood lots, use of the dammed ice pond for ice harvesting, harvesting of lumber used in lime processing, for charcoal and timber, gravel mining, and residential use. From the 1920s to the 1950s, Terre Haute passed through several hands as a summer estate and working farm. A significant turning point occurred in the 1950s when a developer purchased the property and

began the first industry in what is today the Francis J. Clarke Industrial Park. Burndy Corporation, which is still in existence today, and a knitting industry were developed. Terre Haute continued to change hands until 1980 when the property, including what is now the industrial park, was purchased by the Town of Bethel for approximately 2 million dollars. Of the 631 acres purchased, 200 acres were originally designated for the industrial park.

After a change in zoning, the development of the industrial park began in the mid 1980s. Currently 35 lots occupy 220 acres while the remaining 431 acres of Terre Haute are undeveloped. Plans for residential development and a golf course were proposed, but neither proposal was implemented.

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### *Cultural Resources*

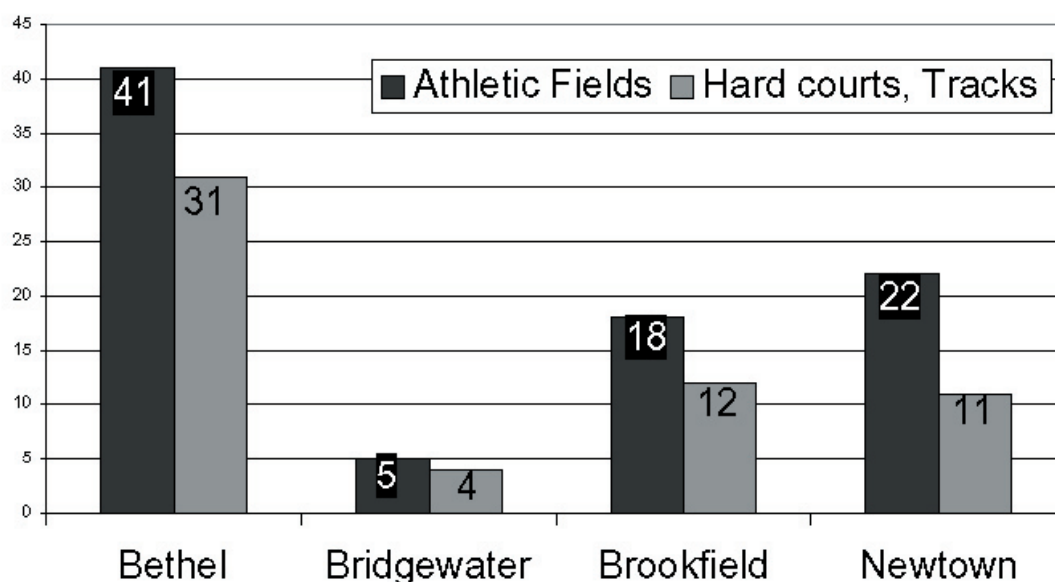
A significant archeological discovery on the reservoir lands is a 14-foot, chestnut dugout canoe found in Mountain Pond when it was drained in the early 1900s. The 400-500-year-old canoe was preserved by Native Americans and provides testament to their presence on these Bethel-owned lands. In addition, the presence of ledges and rocky outcrops on the Terre Haute property is an indicator of potential use of Terre Haute by Native Americans for camps. Native American tools and sites have been identified in the region by the Connecticut Office of State Archeology, and highly sensitive sites have also been identified within the industrial park.

## RECREATION AND OPEN SPACE

**Summary: In comparison to several surrounding towns, Bethel has more than twice the amount of athletic fields and hard courts/tracks. It lacks, however, in open space, with only 87 non-intensively used acres.**

“Open space and outdoor recreation are major contributors to the quality of our lives. Recreational facilities, heritage sites, forest, wildlife management areas and preserves enhance the physical and mental well being of our citizens and attract business and industry.” (SCORP 1987-1992 p. 1)

**Table 2: Comparison of Playing Fields, Courts, and Tracks**

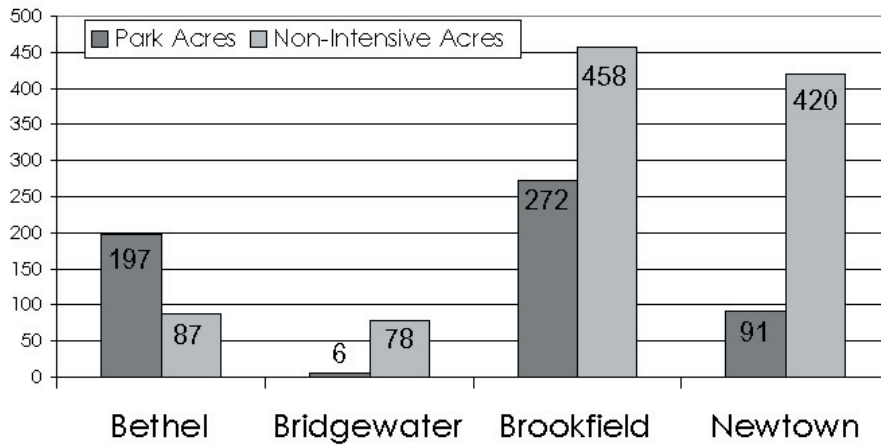


According to the final draft of the Statewide Comprehensive Outdoor Recreation Plan (SCORP) for 1993-1998 (CT DEP, Sept. 1998) Bethel has a high number of multi-purpose, hardball diamond, softball diamond, football, soccer, and field hockey fields, tracks, and basketball and tennis courts (see table 2). In comparison to surrounding towns, Bethel has more than double the amount of playing fields with a total of 41, and hard courts/tracks which total 31. Where Bethel is lacking, however, is in passive recreation areas. In addition, active recreation facilities such as a swimming pool, ice hockey rink, or sport's complex, and a golf course are also absent.

	Population (2000)*	Area (acres)
Bethel	18,067	10,880
Bridgewater	1,824	10,432
Brookfield	15,664	12,672
Newtown	25,031	38,643

Sources: \*2000 U.S. Census, Bethel Plan of Development, SCORP

Table 3: Comparison of Developed Parks and  
Non-intensive Acres



Source: SCORP

To help understand what surrounding towns similar in either density, population, or area have for recreation, the Bethel Plan of Development and SCORP compared Bethel, Bridgewater, Brookfield, and Newtown. Taking a look at the park acres and non-intensively used acres of open space, Bethel totals less in comparison to both Brookfield and Newtown, towns of similar populations and/or acreage. Bethel's 197 park acres fall between Brookfield's 272 acres and Newtown's 91 acres. Where Bethel is significantly below Brookfield and Newtown is in non-intensive, passive open space acres.

According to the Bethel Plan of Development, preserved lands and public parks, which include town- and state- owned lands, total approximately 14% of the total land use while the State of Connecticut has stated a goal to preserve 21% of its land. State parks in the vicinity include Putnam Memorial State Park, Wooster State Park, and Huntington State Park. With Fairfield County facing increasing population pressures, towns in the vicinity of Bethel have spent sizable amounts of money to purchase open space land and make linkages between open space lands to create corridors. In the regional context, Terre Haute, through the reservoir lands, connects to Tarrywile Park. Tarrywile Park is part of a larger green corridor of more than 4,500 acres which has been slated for the creation of the Ives Trail (see Figure 11). This recreation corridor, which leads from Ridgefield through Danbury, is slotted for activities that include hiking and biking. Because of Terre Haute's proximity to the corridor and connection through the reservoir lands, Danbury has identified the Terre Haute lands in Danbury as high priority for conservation.

Current trail systems within the Town of Bethel include trails in Overlook Park, nature trails in the Bergstrom Property Park, and the 5.5-mile Enchanted Trail which leads from Huntington State Park to Meckauer Park, a trail that traverses forested land as well as roads to connect the two parks.

# FRANCIS J. CLARKE INDUSTRIAL PARK

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**Summary: Francis J. Clarke Industrial Park is a light manufacturing and distribution industrial park located on property that was part of the original Terre Haute purchase. The approximately 40 companies within the industrial park bring the Town of Bethel \$1.4 million in tax revenue per year. The proximity of Terre Haute to the industrial park offers several opportunities and benefits for both the industrial park and Terre Haute.**

The Francis J. Clarke Industrial Park property was part of the town's original Terre Haute purchase in 1980. To allow for economic development within the town, zoning changes were passed that allowed for industrial expansion. Although Burndy Corporation, which is still in existence today, was developed prior to the industrial park, the majority of the Francis J. Clarke Industrial Park was developed in the mid-1980s. Today, the industrial park consists of 35 lots within 220 acres, and the last undeveloped lots are in the process of development.

The industrial park is managed by the Economic Development Commission (EDC), a town committee of seven volunteers. Lots, which are zoned at a 2-acre minimum, are sold to a company or developer and within six months construction must have commenced. The development is subject to rules and regulations of the EDC, the Planning and Zoning Board, and the Inland Wetlands Commission. The 35 lots currently serve more than 40 companies that bring the town \$1.4 million in tax revenue per year. The EDC is considering expansion of the industrial park into Terre Haute on an area of similar elevation to the original industrial park expansion.

The proximity of Terre Haute to the industrial park offers several mutual benefits. The large open space of Terre Haute gives the industrial park a pleasant and rural feeling making it a desirable place to work. Since the industrial park is light manufacturing and distribution, the industry does not have severe adverse effects on the environment. In addition, Terre Haute can offer recreational opportunities for some industrial park employees for hiking and mountain biking. However, Terre Haute is not easily accessible for low-intensity recreation. Trails that begin near the industrial park and cross into Terre Haute are relatively steep.

## ECONOMIC CONSIDERATIONS

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**Summary: Economic benefits that Terre Haute currently provides, or has the potential to provide include increased property value to adjacent lands, recreation-generated revenue, revenue from sale of property or easements, and water quality protection. Development of housing within Terre Haute, for which the land is currently zoned, would be a net operating loss for Bethel because of the cost to construct and maintain services such as water, sewer, roads, and schools.**

One of the important factors to Terre Haute's viability as a community resource is the economic benefits that it can provide. While a professional economic study would be necessary to provide a comprehensive outline for the costs and benefits associated with development, recreation, conservation and other potential uses for the Terre Haute and the Francis J. Clarke Industrial Park, the scope of this project has identified certain economic considerations.



*More than 40 companies conduct business in the Francis J. Clarke Industrial Park.*

### *Property Value Benefits*

The proximity of undeveloped land to the Francis J. Clarke Industrial Park is an amenity that increases the market value of land within the industrial park. In addition, property values within Bethel that are adjacent to Terre Haute and have views of the ridgeline are increased. For example, a study conducted in Salem, Oregon showed that property adjacent to a greenbelt sold for \$1,200 per acre more than land 1,000 feet away. In addition, a Trust for Public Land survey indicated that quality of life, behind accessibility to domestic markets and availability of skilled labor, was the third most important factor for locating a business according to corporate CEOs.

### *Economic Benefits Through Recreation*

Another benefit that open space can provide the town is through recreation. Attracting people for recreation has the potential to increase revenue for the town through revenue generated by business related to travel, equipment, clothes, food, and maps. A study conducted by the National Park Service for a rails-to-trails system shows the following economic gains.

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Table 4: Trail System Revenues

TRAIL	REVENUE/ DAY/PERSON
Tallahassee St. Mark's Trail (Florida)	\$11.02
Heritage Trail (Iowa)	\$9.21
Lafayette-Morgana Trail (California)	\$3.97
Total yearly revenue range	\$1.2 to \$1.9 million

Source: Rails-to-Trails, National Park Service (1993)

While Terre Haute does not contain a potential rail-to-trail, the future Ives trail could be considered a comparable regional recreational trail.

#### *Revenues from Land/Conservation Easement Sales*

Other sources of revenue from Terre Haute land include direct sale of the land or sale of conservation easements. Both of these options would provide immediate economic benefits but not account for long-term economic goals.

#### *Water Quality Protection*

Ecological benefits such as water and air filtration should also be taken into consideration. Because of the Eureka Reservoir and Mountain Pond Reservoir lands, changes to the surrounding land could affect water quality necessitating costly water filtration facilities. In one case study, on the New Jersey-New York border in Sterling Forest, the state of New Jersey helped purchase open space lands to protect forest within a water supply area from proposed housing development. The study showed that a water filtration plant would cost the state millions of dollars to maintain predevelopment water quality.

#### *Tax Considerations*

Because Terre Haute is currently zoned residential, one consideration for the property is its potential to be developed into residential housing. While an initial return would go to the town from selling the land, the town would,



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in the long term, be spending more per household than they would receive in tax revenue. Estimates according to a study conducted by the Southern New England Forest Consortium Inc, showed that residential development resulted in a net loss of tax revenue to towns. In a study of 11 New England towns, 4 of which are in Connecticut, the average amount spent by the town per dollar raised in taxes was \$1.14. In addition, the study found that towns with increasing population pressures spent more than towns with stable populations. Residential development costs the town more in town services than the generated amount of tax revenues from the new housing.

### *Promotional Events and Community Activities*

As a large open space area and regional trail amenity, the lands of Terre Haute could host a variety of significant recreational, cultural, and social events and community activities. Special race events (mountain biking, running, or walking) could be organized as recreational activities that link Terre Haute with Bethel and its neighboring communities. Natural history tours, environmental education activities, or similar activities could be planned to incorporate Terre Haute with social and cultural activities available to the Bethel community.



# Corridor Map (figure 11)

Corridor Map (figure 11)  
(back)

# ZONING

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**Summary: Terre Haute is zoned RA-80 for residential development in both Bethel and Danbury. Various uses are permitted or permitted with special permit from the Town's Planning and Zoning Departments.**

## *Bethel Land-Use Regulations*

The RA-80 zoning in Bethel allows for one single-family dwelling unit per lot. Minimum lot size is 80,000 sq. ft. (slightly less than 2 acres) and minimum road frontage is 160 feet. Permitted uses include home business, home office, or professional office; customary incidental home occupation such as dressmaking or watch repair; farming, forestry, or horticulture, subject to limitations; tag sale, water reservoir, and family day-care (Section 118-24).

Numerous special permit uses are allowed subject to permission by the Planning and Zoning Commission after a public hearing. In particular, a community recreation facility,—not including an amusement park or privately owned facility—public park, public playground, or public recreational facility operated by a governmental unit are considered for special permit uses. Other special permit uses include cemetery, church or residence for clergy, community center building, a library or museum operated by a non-profit corporation, private golf, tennis, or swim club, school, bed and breakfast establishment, and the boarding, training, and raising of horses. These are outlined in Section 118-24 (B) Town of Bethel Zoning.

Additional special regulations that may affect projects include off-street parking, road length, filling, excavations and/or removal of earth material, landscape requirements, and erosion and sedimentation control regulations.

## *Industrial Park Regulations*

The Francis J. Clarke Industrial Park is zoned IP. Minimum lot size is 80,000 sq.ft., minimum road frontage is 180 feet, maximum lot coverage by building is 30%, maximum building height is 2.5 stories or 35 ft., and maximum floor area can not exceed lot area.

Rules and Regulations have been established by the Economic Development Commission pertaining specifically to the Francis J. Clarke Industrial Park. Permitted uses, in addition to those set forth in Bethel's zoning regulations, include:

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1. Industrial and technical uses with a principal character of light industry, research, education, blueprinting, laboratory, manufacturing, office, repair, rental and service; sale at wholesale of storage, and railroad facilities, and
  2. Services to the uses of the park such as bank, post office, restaurant, savings and loan.

Off-street parking requirements specified by Bethel zoning regulations are for class four uses (those permitted in the Industrial Park Zone IP). Parking must equal an area one-fourth (1/4) the gross floor area of all structures on the lot.

One example of a permitted use in the industrial park that could be applicable to this project include a day-care center. Uses requiring special permit in the IP zone include but are not limited to recreation facilities, athletic clubs, tennis facilities, ice-skating facilities, and golf driving ranges.

Several restricted or prohibited uses such as on-site storage of hazardous waste, road salt, and septage, are prohibited to protect primary aquifer resources of the town.

### *Danbury Land-Use Regulations*

Terre Haute land in Danbury is zoned RA-80 with minimum lot sizes of 80,000 sq. ft. (about two acres) per single-family dwelling unit. Additional permitted uses include museums and schools up to the secondary level. Several special exception uses are identified such as farming, forest or wildlife reservation, and cemetery. Cluster development is allowed for the purpose of preserving substantial areas as common open space, with a minimum of 20 acres in the RA-80 zone. Country club with golf courses and golf courses are not allowed in RA-80 zone as of June 2002.



*A residential neighborhood in Danbury abuts Terre Haute.*

# LIABILITY ON PUBLIC RECREATIONAL LANDS

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**Summary: According to Connecticut statutes, municipalities are not liable for damages done to people on land that has not been improved or on unpaved trails. There is some ambiguity, however, of the degree to which a town is immune to liability on public recreational lands, and therefore, legal council should be consulted to provide a comprehensive understanding.**

A concern in opening Terre Haute formally to public access has been municipal liability. The issue at hand is to what degree a town is immune from liability for public use of land for recreational purposes.

It is important that town council be consulted further about town liability. Any discussions are preliminary and would necessitate further research by a qualified legal professional.

Under C.G.S.A. 52-557(n), a portion of The Recreational Land Use Act a “political subdivision” of the state is not liable for damages to any person or property resulting from the condition of: (1) natural land or unimproved property or (2) an unpaved road, trail or footpath, when the purpose is to provide access to recreational or scenic area. However, the municipality is liable when it receives notice of the condition and has a reasonable opportunity to make the condition safe. Public parks and playgrounds have been held as examples of municipal functions, undertaken for the public benefit, that fall within the rule of governmental immunity. These facts point to the municipality being immune from liability if proper care is taken of the property.

There is, however, some ambiguity as to whether a town is immune from liability on public recreational lands. In 1996, in a Connecticut Supreme Court ruling, *Conway v. Town of Wilton*, (238 Conn. 635) it was determined that municipalities are **not** protected from liability under the Connecticut Recreational Land Use Act (C.G.S. 52-557(f) through 52-557(k)) when allowing public use of open land. There has not been a Connecticut court case directly addressing the issue of open-space liability of municipalities, more specifically, taking into account the common law doctrine of government immunity.

In addition, it would be important for Town Council to consider the facets of public nuisance law to determine town liability. A public nuisance can be a condition that has a natural tendency to create danger and inflict injury upon a person or property. The condition needs to be created by a positive act on the part of the municipality, the danger must be continuing, and the

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use of the land unreasonable or unlawful. Some organizations operate with the assumption of immunity specifically if there is nothing dangerous, or no “attractive nuisance”, on-site.

Liability is an issue that public agencies with public recreational land need to take into consideration.

CONCEPTS





# CONCEPTUAL DEVELOPMENT

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The land-use study identifies conceptually the portions of Terre Haute that are suitable for the town's recreational needs and economic development. The recommendations of this feasibility study can be used as a guide for planning future uses of the land. While this study offers valuable information for potential activities and land uses on Terre Haute, more in-depth planning should be pursued to develop a master plan for expansion of the industrial park or modified recreational uses. Furthermore, the town of Bethel should consider the conceptual development schemes in light of the site specific analyses as well as the site's greater context. Bethel should take into account its potential role in the Fairfield County region and within the State of Connecticut.

On the local level, understanding and assessing the environmental and social analyses is critical to determining land-use feasibility. In addition, the Town of Bethel's needs and citizen desires must be incorporated. Conclusions from environmental inventory and analysis as well as citizen input and information gathered at two public forums were used to develop criteria upon which the following concepts are based.

Conclusions from the social and environmental analysis indicate that:

- major constraints including shallow bedrock, steep slopes, and wetlands limit development potential;
- access to Terre Haute from Bethel is limited because of environmental constraints and surrounding land uses;
- the Town of Bethel has little dedicated open space in comparison to surrounding towns;
- Terre Haute does and has more potential to provide economic opportunities through open space and recreation;
- tax benefits the town would gain from housing development would be outweighed by the costs of providing municipal services to the houses and residents; and
- Terre Haute is an amenity to the Francis J. Clarke Industrial Park and vice versa.

Based upon these conclusions, the following criteria guided the design process, with the object of meeting as many criteria as possible.

Slopes and soils:

- Allow moderate and low-intensity use on slopes up to 15%.
- Minimize erosion potential on slopes over 25%.
- Prohibit activity on slopes over 50%.

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Waters and Watershed Lands:

- Limit human activity within lands draining to the public water supply.
- Limit human activity in and near wetlands and streams.
- Incorporate design techniques that preserve vegetation and prevent soil erosion in any site improvements.

Wildlife:

- Maintain north-south corridor.
- Protect diverse and unique habitats.

Access:

- Allow for access to people of all abilities.
- Create three to five access points with parking and trailheads.
- Exclude formal access on public water supply lands.

Recreation:

- Maintain current recreation uses.
- Create new opportunities for recreation.

Views:

- Keep buildings off visible slopes and ridgeline.

Industry:

- Provide space for industrial park expansion.

Open Space Protection:

- Create dedicated open space land.

Any future site improvements or master plan for the lands of Terre Haute and water reservoirs should adopt these preceeding criteria as minimal design guidelines.

## CONCEPT #1: GATEWAY TO RECREATION

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The environmental analysis revealed that Terre Haute has severe limitations for building and development and several areas of high environmental sensitivity. A concept that can work within these limitations creates a recreational hub for Bethel and the surrounding community. Terre Haute and Bethel can be promoted as a hub for a major regional recreational trail system. Developing a recreational trail for hiking, mountain biking, and cross-country skiing would promote economic development by attracting people to Bethel. Visitors could spend time recreating and also visit quaint downtown Bethel, with the potential to stay overnight.

Using the criteria as a baseline, this regional trail system can fulfill many of the requirements that are necessary for a sound site design. A formal well-marked trail system can limit access to more sensitive areas on Terre Haute and the reservoir lands. On land near Mountain Pond and Eureka Reservoir, a 50-foot vegetated buffer with limited human access should be maintained, and a 100-foot buffer zone where no construction or development takes place should be enforced. Furthermore, any activity that would create erosion and sedimentation should be prohibited. By following these measures, the watershed lands can be part of the recreation corridor, linking Terre Haute with Tarrywile Park in Danbury and onto the proposed Ives Trail.

Trail system networks are highly desirable destinations, especially within Fairfield County where population is on the rise. This “Gateway to Recreation” can create an eco-tourism niche. The study by the National Parks Service (cited earlier under Economic Considerations) explains how a town can benefit from a trail system. Money is spent locally on food, at restaurants, on recreational equipment and repairs, and New England souvenirs. Regional trails systems have been shown to bring in significant revenues to local businesses.

From a recreational standpoint, this concept allows the majority of the property to remain as open space, with the potential to create a sense of stewardship for Terre Haute within the community. The recreational hub located at the end of Trowbridge Road would allow for easy access to the interior of the property and create several recreational opportunities in addition to the passive recreational opportunities Terre Haute offers. A recreation center to the rear of the industrial park could include a swimming pool or ice rink if the town had sufficient funding and community support for such a venture. This expansion of recreational resources would meet needs for Bethel citizens as identified in the Bethel Plan of Development.

This concept links various neighborhoods and the industrial park to recreational opportunities for the benefit of Bethel residents and industrial

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park employees. On a town-owned parcel of land in the north portion of the industrial park shown in green on Figure 12, an environmental education nature trail/picnic area could connect adjacent neighborhoods to Terre Haute. With a more extensive trail network and easily identified access from nearby neighborhoods, town residents would be encouraged to use the area and reap the recreational benefits.

The “Gateway to Recreation” can be a community and regional amenity with economic, recreational, and environmental benefits.



*Terre Haute can provide multiple recreational opportunities for citizens of Bethel.*

CONCEPT 1 MAP (figure 12)

CONCEPT 1 MAP  
(BACK)(figure 12)

## CONCEPT #2: CLARKE PARK CONNECTIONS

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The Francis J. Clarke Industrial Park and Terre Haute are mutually beneficial in several ways. The Clarke Park Connection concept aims to capitalize on the beneficial relationship and provide the Town of Bethel with the economic opportunities that it seeks.

Given the environmental constraints on Terre Haute, there is a limited area appropriate for expansion of the industrial park, which the EDC would like to implement. The area most conducive to expansion is at the south end of Trowbridge Drive (the purple area in Figure 13), where there is minimal elevation change and fewer environmental constraints, according to the environmental sensitivity analysis. One concern for this site, however, is that the only access is from Trowbridge Drive which is a single entry/exit and already longer than allowed under existing zoning. Bordering the 12-acre area are steep slopes to the west, Sympaug Pond and the ConRail railroad to the east, and a wetland to the south. Further south of this wetland is another 6-acre area with fewer environmental constraints. Access to this area would have to take place through a wetland and stream flowing from a steep slope. The 6-acre area could be developed as a recreational amenity such as a nature trail with a small changing facility to link a more extensive trail system and provide an easy means of accessing inner trails of Terre Haute.

There are three access points onto the property from the Bethel side as well as the Danbury side. While precautions need to be taken to ensure that the access point along Long Ridge Road be created with the least effect on the watershed lands, construction of a trail head can be done in a sensitive way to avoid erosion, sedimentation, and pollution issues. Long Ridge Road has been used for access to Mountain Pond and Eureka Reservoir. By providing a formal point of access, use of the property can be concentrated into a specified area using site-sensitive, designed improvements.

In the north area of the industrial park, a 9.2-acre area is potentially suitable for industrial development. This area has a moderate slope and is close to the existing industrial park infrastructure.

Another Bethel-owned property, adjacent to the industrial park (the green area in Figure 13), can provide opportunities to create a community picnic area and nature trail that can be used by industrial park employees and neighborhood residents.

The natural beauty and recreational amenities of Terre Haute are great selling points for attracting new businesses and employees. Companies are attracted to this type of location because of the natural, quiet setting and

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the ability to attract and keep employees, among other reasons. Businesses can foster good public relations by helping to create an infrastructure and sponsoring events. By being involved in the community and creating goodwill, everybody gains: Bethel residents, business, and the greater community. The Francis J. Clarke Industrial Park has been a tremendous benefit for the Town of Bethel. By continuing to pursue the goals of being a good community partner, the industrial park can provide jobs and tax revenues for Bethel, and be a good neighbor to Terre Haute.



## CONCEPT #2 MAP

CONCEPT #2 MAP  
(BACK)

# INDUSTRIAL PARK RECOMMENDATIONS

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Numerous opportunities for a symbiotic relationship exist between Terre Haute and the industrial park. Protecting and enhancing Terre Haute's natural beauty can create benefits for the industrial park and the Town of Bethel. The industrial park has thus far been an asset for the town by bringing in tax revenue and providing jobs. As a light manufacturing and distribution industry it has not added significant levels of pollution into the surrounding environment. The industry in the park has likewise benefited from Terre Haute's proximity because employees are attracted to locations like Terre Haute for the natural beauty, quiet, and access to recreational amenities. These are, however, only some of the ways that Terre Haute and the industrial park benefit each other.

## *Clarke Park and Terre Haute Connections*

Several approaches to getting industrial park companies and employees more involved in stewarding Terre Haute are possible. Companies within the industrial park can be encouraged to:

- Sponsor projects such as trail building and trail maintenance;
- Supply materials for kiosks such as maps and informational flyers;
- Encourage and promote events and volunteer "work" days;
- Sponsor information kiosks, gazebos, benches, wildlife viewing areas, and wildlife/butterfly gardens on corporate grounds;
- Sponsor hikes, road races, and mountain bike races;
- Aid with fund raisers;
- Adopt a trail or a wetland;
- Provide resources for educational events; and
- Install native plantings around buildings.

## *Ecological Industrial Parks*

During the past two decades, numerous approaches to industrial park development have been developed that incorporate ecologically minded site management. Ecological Industrial Parks (EIPs) have made a difference in how people view industry and industrial parks by applying site-sensitive strategies:

- Implementing stormwater management techniques that reduce runoff through plantings and retention basins. Several industrial parks have created retention basins that serve the dual purpose of managing stormwater by lowering the stress on sewers and allowing for groundwater recharge and providing an aesthetically pleasing pond

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for employees to enjoy.

- Minimizing disruption of the natural environment in site preparation and construction, creating a building envelope beyond which the land cannot be disturbed minimizes disruption to the surrounding environment.

- Siting structures to provide energy efficiency. Buildings sited for passive solar orientation have the potential to cut down on energy use and create better day-lighting for employees.

- Creating higher density industrial parks to minimize disturbance to surrounding area. Allowing for smaller lot sizes while retaining building sizes creates incentives for a smaller envelope to allow greater development intensity

- Landscaping with native plants. Bringing more vegetation into the industrial park will help create continuity with surroundings, help capture stormwater runoff, and act as filtration for soil and air.

- Redeveloping existing sites rather than breaking new ground. By allowing for reconfiguration of existing sites, older sites can evolve with changing industrial trends and ecological principles.

- Providing outdoor greenspaces for employees. Increasing the quality of the work atmosphere for the employees benefits the companies for which they work and, in general, their quality of life.

- Providing special permits to allow for shared parking lots between companies. Reducing the amount of impermeable surface reduces stormwater runoff and allows for other uses of space.

- Creating no- or low-mow areas by creating meadows in lieu of lawns. Companies can benefit from lower maintenance costs and partake in environmental and community stewardship.

Because certain companies within the industrial park are getting older, there is a potential for redevelopment of existing parts of Clarke Park. This redevelopment can maximize use of the existing industrial park. The suggestions allow the EDC and the Town of Bethel to rethink existing policies and be at the forefront of a growing trend in ecological industrial parks. The EDC and the Francis J. Clarke Industrial Park can be a model for other communities.

# CONSERVATION PLANNING

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Several options for establishing all or parts of Terre Haute as conservation or open-space land are available. These options, which would place the land in permanent protection, can also benefit the town financially.

## *Management Agreement*

Engaging a land trust or other entity in a management agreement would help Bethel plan for the care of the natural and scenic features of the land. Management agreements are usually written for a defined term and can be renewable. The land trust, or other entity, often provides technical advice or assistance (sometimes for a fee), while the landowner carries out the plan.

## *Ridge Protection Overlay District*

A ridge protection overlay district was recommended in the 1997 Bethel Plan of Development. Restrictions on uses in areas with slopes of 25% or greater would protect many of the areas that could be most damaged by human activity. This option could be combined with others to provide increased long-term protection.

## *Conservation Easements*

Conservation easements are a way to retain ownership and the ability to sell or convey the property. Any sale or conveyance will always be subject to the terms of the conservation easement or restriction. The easement document becomes part of the deed of the property.

Several types of easements may be considered for Terre Haute including a watershed preservation easement, an historic preservation easement, or a scenic easement. These easements protect particular features by specifying how the property can be used and restricting certain activities. Passive recreation, for instance, could be included on an easement document as allowable uses for Terre Haute. These restrictions, accepted and recorded by a recipient agency or organization, such as a land trust, are then legally monitored and enforced by that agency.

If the Town of Bethel sold an easement, it would benefit financially and could specify restrictions on the future use of Terre Haute. Stipulations could state that the land must conform to proscribed uses. Residential development could be a restricted use on lands draining into the public water supply. The main

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benefit of this approach is its adaptability to the town's needs and wishes while honoring the special characteristics of the land. An easement could limit all activity that changes the natural conditions of the property, or it could allow recreation, silviculture, or other uses on all or parts of the land. It is essential to make clear the conditions under which the agreement is made so future generations and monitoring organizations can fulfill any original intent.

Funds from the sale of an easement could then be used to purchase properties more suitable for active recreation, industrial development sites, or other needs as identified.

### *Sale of Land*

Outright sale of all or parts of the property is another option for the Town of Bethel. This transaction could have the same result as an easement by giving the town a financial benefit. This fund could then be used to purchase additional property more suitable for active recreation, or other development. Several parts of the property could be considered under this scenario; the Danbury side of Terre Haute, the area within the Saugatuck River watershed (Bogus Brook watershed), the area within the Mt. Pond and Eureka Reservoir watersheds, and the steeper section on the Bethel side around Bogus Mountain.

The option of selling the Danbury portion of Terre Haute would fulfill several purposes. At this time Bethel gains little from the land, there is no good access to it from Bethel, uses are restricted on it from the slopes, rock outcrops, thin soils, wetlands, and streams, and its proximity to Mt. Pond the towns' public drinking water supply. Danbury has recently completed a draft "Natural Resource and Open Space Analysis of Danbury's Southern Tier" (January 2003). The Danbury portion of Terre Haute holds some interest to them as an open space resource.

Other land trusts or conservation agencies may have an interest as well in Terre Haute. Connecticut Department of Environmental Protection (DEP) has identified portions of the Saugatuck River watershed as high priority for purchase with state funds for open space protection. This is due to the relatively high degree of connectivity and ecological integrity these areas have. The presence of state-listed endangered and special concern species also makes these lands of interest to regional conservation organizations such as The Nature Conservancy and conservation agencies.

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Sale of all or portions of the property could be done with deed restrictions, allowing control over uses, though these are less stable and permanent than conservation easements. Any sale of the property should consider retaining an access easement to allow a future connection to the regionally significant Ives Trail for the benefit of Bethel residents.





## CONCLUSION

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Terre Haute and the reservoir lands are an enormous amenity for the Town of Bethel. These lands connect to a large tract of open space; they adjoin a clean industrial park which has been a large economic benefit for the town; and they have the potential to become a major “Gateway to Recreation.” Terre Haute is a varied and diverse piece of land that can continue to provide for and enhance the quality of life for Bethel residents as well as the greater community.

While surrounding communities spend millions of dollars to conserve open space, Bethel has the opportunity to conserve land it currently owns while meeting the town’s passive recreational needs. Conservation and recreational development can occur simultaneously through careful, planned, and sensitive site enhancement to better integrate Terre Haute into the community. Terre Haute is a community asset in multiple ways because in addition to providing dedicated open space, it can:

- increase recreational opportunities for Bethel residents;
- be a community link to the surrounding towns;
- bring in economic revenue for small businesses;
- be an attraction for light industry in the industrial park; and
- help maintain a high quality of life that is important to the character of Bethel.

Terre Haute is an impressive, rugged ridgeline set in a pleasant New England town. It helps create the rural feel upon which Bethel prides itself. As one Bethel resident said, “What kind of legacy does Bethel want to leave its community?” The forested landscape with its ponds and bubbling streams is an increasing rarity in Fairfield County, and Bethel has the opportunity to leave a legacy of cleaner water, cleaner air, and rocky nooks and crannies nestled in more than 450 acres of conserved lands.





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# APPENDICES